RESEARCH HIGHLIGHT

July 2008 Socio-economic Series 08-014

# Community Indicators for an Aging Population

## INTRODUCTION

An earlier CMHC study "Impacts of the Aging of the Canadian Population on Housing and Communities" found that population aging will have profound impacts on housing and communities —neighbourhoods, villages, towns and cities. It also indicated that communities need to give more thought to the implications; identify community-specific needs, challenges and opportunities; and respond by adopting balanced planning strategies that address the needs and challenges, and realize the potential benefits, of an aging population

## OBJECTIVES

This study follows from the earlier research mentioned above to develop a set of indicators and a checklist that can help communities meet needs and challenges arising from population aging by identifying community attributes that are of particular importance to help seniors [1] "age in place" —that is, to continue to live in their current home and familiar community for as long as possible, even if their health changes. Local planners across Canada can use these indicators and checklist as a tool for assessing the current situation and setting goals related to the needs of an aging population, and for tracking progress against those goals.

## METHODOLOGY

Based on the findings of a literature review and focus groups with seniors, the researchers developed a set of preliminary indicators and check list to measure the extent to which a community's built environment benefits seniors' independence, health, quality of life and well-being. The researchers then interviewed 30 planners and other experts who provided feedback on these indicators and checklist and helped to refine them. Following the conduct of a pilot test with two communities to gather their feedback on the utility of the indicators and checklist and the availability of the data required to support their use, the researchers fine-tuned the set of indicators and checklist.

Many municipalities have used the smart growth, livable and sustainable community planning concepts[2] with high success. In developing the indicators, the researchers examined the relationship between smart growth concepts and the creation of livable and sustainable communities that facilitate aging in place.

### Literature review

The researchers found a large body of literature on the principles and implementation of smart growth and livable communities, and some literature on the implementation of sustainable communities. They also identified a sizable body of literature on aging in place.

However, they identified few pieces of literature, from Canada or elsewhere, that explicitly connect the two topics, although implicit connections are common. By synthesizing information across available literature, the researchers identified and categorized challenges in meeting the needs of senior residents associated with land-use planning and the built environment in six key areas. They used the following six categories as an organizing principle throughout subsequent study phases:

1. Neighbourhood walkability
2. Transportation options
3. Access to services
4. Housing choice
5. Safety
6. Community engagement in civic activities.

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1 For the purpose of this *Research Highlight*, "seniors" are generally defined as persons age 65 or over.

2 Smart growth focuses on managing growth, improving development efficiency and protecting the environment; livability centers on transportation and housing choices, civic amenities and high quality of life; and sustainability is about meeting the needs of current and future populations while minimizing the impact on the environment

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### Focus groups

Following the literature review, the researchers conducted two focus groups with senior residents in suburbs of Montréal and Vancouver to collect input on the challenges of aging in place related to the built environment. Findings from the focus groups validated and expanded the findings of the literature review.

### Indicator development

The researchers used available literature and input from seniors to develop indicators to measure the extent to which a community's built environment benefits seniors' independence, health, quality of life and well-being. The researchers then interviewed 30 planners and other experts who provided feedback on the indicators and helped to refine them.

### Case studies

Subsequently, the researchers developed 10 case studies that illustrate how the principles, elements and features of smart growth and livable and sustainable communities have been used by planners to address the needs and preferences of seniors. The case studies illustrate various interventions and planning approaches at different community levels (for example, neighbourhood, city and regional municipality).

### Pilot test of the indicators

Pilot tests of the indicator set were conducted with the Squamish, B.C. and Mississauga, Ont. planning departments. These pilot tests provided feedback on the utility of the indicators and the availability of the data required to support their use. The researchers incorporated this information in developing a revised set of indicators to assist community planners in meeting the built-environment needs of an aging population.

## FINDINGS FROM LITERATURE REVIEW, FOCUS GROUPS AND CASE STUDIES

The literature review, focus groups, and case studies yielded several findings on the relationship between smart growth concepts and the creation of livable and sustainable communities whose built environment would meet the needs of seniors and allow them to age in place. Four overarching findings were identified, as well as several findings specific to the six key areas of neighbourhood walkability, transportation options, access to services, housing choice, safety and community engagement in civic activities.

## OVERARCHING FINDINGS

1. Most Canadian communities have made minimal progress in achieving smart growth and livability goals to date, and are thus ill prepared to accommodate the housing and mobility needs of an aging population. Government leadership is needed to make the smart growth-livability-aging in place connection, and to push these issues to the forefront of the public policy agenda.

2. Certain tenets of smart growth and livable and sustainable communities are especially important to seniors striving to remain independent members of their community: pedestrian-friendly orientation of streetscapes; mixing of land uses; availability of transit options and reduced reliance on automobiles; and the existence of affordable and diverse housing stock. Attention to these tenets facilitates land-use practices that benefit all community members.

3. Many planning and zoning changes needed to facilitate housing strategies that meet smart growth and livable community goals are the same as those needed to support aging in place. These include dispensing with large-lot zoning, minimum parking requirements and bans on multi-unit housing; and promoting tested forms of alternative zoning and planning approaches that facilitate compact, mixed-use development.

4. Collaboration between government and the private sector in real estate development projects, as well as in providing services such as transportation and home renovation, can be an effective strategy for implementing plans to improve seniors' quality of life.

## FINDINGS SPECIFIC TO KEY AREAS

### Neighbourhood Walkability

Smart-growth streetscape planning for seniors must include attention to small details, such as the availability of sidewalks in good repair and resting places along pedestrian routes, that, in combination, have significant impacts on the ability of older residents to take advantage of pedestrian routes.

Planning for walkable communities is an important component in allowing seniors to live independently. Design plans that feature walkability create safe environments for seniors, facilitate community engagement, reduce feelings of isolation and promote active lifestyles —all of which are essential for successful aging in place.

### Transportation

The smart-growth emphasis on widespread transit availability facilitates aging in place, although age-sensitive transit features are needed to make seniors feel safe and comfortable using transit systems. Without better public transportation service, older seniors will continue to drive to meet their transportation needs, even if driving is stressful. In addition, seniors who should not drive, but do so because they do not have other transportation options, pose a risk to themselves and others. Smart-growth planning mitigates the need for seniors to drive.

### Safety

Many seniors harbour concerns about crime and personal safety that need to be taken into consideration when promoting walking and public transportation. The fear of crime or fear of falling on poorly maintained or icy sidewalks is heightened at night. Several smart-growth strategies mitigate these fears by providing better lighting and safer crossings, and also by encouraging high levels of pedestrian activity.

### Housing

Communities that provide a range of housing choices are better equipped to deal with aging populations. A well-diversified and affordable housing stock provides seniors with options to remain in their own community in the event that they can no longer live in their current residences.

### Access to Services

To live full and independent lives, seniors need to be able to access basic services such as health care, grocery stores, retail shopping, community facilities and recreational opportunities. Basic services should be located within short walks of residences and at transportation nodes.

### Community Engagement

Seniors' isolation due to a lack of mobility has negative economic and civic impacts that can be avoided with smart-growth planning. A community that is designed to support seniors' mobility can take advantage of the talents and contributions of its seniors. Involving seniors in planning for the future of their communities is a proven approach to ensuring that future land-use projects are inclusive of seniors' needs.

## FINDINGS ON INDICATOR DEVELOPMENT

A preliminary indicator set that can help communities meet needs and challenges arising from population aging was developed based on input from seniors and available literature; much of the work in developing indicators involved expressing community built environment attributes in a way that allows for quantitative goal setting and data collection.

Interviews with planners and other experts helped refine the indicator set. Through this process, the following indicators were developed:

### Neighbourhood Walkability

1. Proportion of housing within walking distance (500 m [550 yd.]) of public transportation (could be further categorized by new versus existing housing stock by local government).
2. Average distance between pedestrian resting places (for example, benches) along sidewalks.
3. Proportion of streets, by kilometre, categorized as streets with sidewalks on both sides, sidewalk on one side and no sidewalk.
4. Proportion of sidewalks (by kilometre) in good repair—that is, no badly cracked or broken pavement.
5. Average number of walks per day, per week, per month by residents 65 years old or older (local government should categorize by destination, season, length, time of walk).
6. Annual number of pedestrian injuries and fatalities from accidents with automobiles, categorized by victim age, season and reason for accident.
7. Proportion of sidewalks cleared during or after a snowfall or freezing rain.

### Transportation Options:

1. Proportion of residents 65 years old or older who travel every day, once a week, once a month, or never, categorized by mode of transportation, destination and season.
2. Average number of trips taken on public transportation every day, once a week, once a month by residents 65 years old or older.
3. Average number of times a week that residents 65 years old or older report staying at home because of lack of transportation.

### Safety

1. Proportion of residents 65 years old or older who report feeling safe or unsafe in their neighbourhood, categorized by time of day, location, and reason(s) for feeling unsafe.
2. Proportions of streets, pedestrian routes (by kilometre), bus stops, public places and retail areas that lack adequate lighting for walking at night.
3. Annual number of slip-and-fall injuries on sidewalks and in public spaces, categorized by: season, type of injury and place of fall.
4. Number of reported street crimes against residents 65 years old or older, categorized by type of crime, location of crime and time of day.
5. Availability of wayfinding systems[3] /safety features at crosswalks (that is, crossing times that allow seniors to cross the streets, clear signage, visible sight lines, audible crossing signal for the visually impaired, safe design).

### Housing Choice

1. Proportions and numbers of residences in the community categorized by housing type: multi-family, single-family, duplex, townhouse, rowhouse, mobile home, FlexHousing™, garden (granny) suites, accessory dwelling units and other (could be further categorized by new versus existing housing stock).
2. Occupancy rates at existing lifestyle retirement housing, seniors residences and supportive housing.
3. Types of tenure available in the community—freehold homeownership, rental, condominium, co-operative housing, co-housing, leaseholds, shared equity ownership, life leases, life tenancies, flexible tenure.
4. Proportion of residents 65 years old or older who spend 30 per cent or more of their before-tax household income on housing.
5. Proportion of residents 65 years old or older living in housing with unmet home modification needs (such as, narrow hallways, unsafe stairs, lack of bathroom grab bars, inadequate lighting).
6. Proportion of households living in "acceptable" housing (meeting adequacy, suitability and affordability standards) in the community, categorized by age cohort.

### Access to Services

1. Proportion of housing within walking distance (500 m) of the following basic services: pharmacy, grocery store and bank.
2. Proportion of housing within walking distance (500 m) or within a 10 minute drive by car or public transit trip to the following services: pharmacy, grocery store, bank, hospital, senior centre, retail shopping.
3. Proportion of residents 65 years old or older who require assistance from family members or other individuals to access the following services: pharmacy, grocery store, bank, hospital, senior centre, retail shopping, libraries and community halls.
4. Proportion of residents 65 years old or older who have access to home delivery of groceries and other retail goods.

### Community Engagement

1. Proportion of residents 65 years old or older who engage in social activities at least once a week. Activities may include: meeting with friends/neighbours, engaging in civic, religious, or cultural activities and volunteer or part-time work.
2. Proportion of residents 65 years old or older who are able to access a dedicated senior centre or other place of interest, such as a library or community centre.
3. Local government has land-use policy and planning programs that specifically engage seniors.

## FINDINGS FROM THE INDICATORS PILOT TEST

Planners conducted a pilot test of the indicators in the fall of 2007. In an attempt to reflect the diversity in Canadian development patterns, two communities that differ in demography and character were selected for the pilot test:

Mississauga is directly west of Toronto. It is Canada's sixth largest city, with a population of approximately 700,000. Mississauga is a growing city known for having a forward-thinking planning department. The Mississauga Planning and Building Department maintains a wide-range of planning data, including an extensive geographic information system (GIS).

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3 "Wayfinding" is a term coined by Kevin A. Lynch in his 1960 book *Image of the City*, to mean "a consistent use and organization of definite sensory cues from the external environment." In 1984, environmental psychologist Romedi Passini, in *Wayfinding in Architecture*, expanded the definition to include signage and other graphic communication, clues inherent in the building's spatial grammar, logical space planning, audible communication, tactile elements and provision for special-needs users.

Squamish is roughly halfway between Vancouver and Whistler along the Sea-to-Sky highway. The town of Squamish (population 16,000) is the economic and cultural centre of the Squamish-Lillooet Regional District. The District is currently implementing new smart-growth regulations and zoning to accommodate rapid population growth in the region. Like planners in many small towns, the District of Squamish Planning Department has relatively few resources to devote to data collection.

The pilot test responses (see table 1) provided a preliminary assessment of the usefulness of the indicators developed, as well as description of the types of data sources available to respond to each indicator. Data availability is a key issue to address in determining the level of effort needed to employ each indicator. Data is needed to develop baselines, set goals and track progress towards established goals. Pilot testers provided input on additional sources of data used to respond to indicators, in addition to data sources that were identified at previous stages of the project.

## FINAL INDICATORS TABLE AND CHECKLIST

The final indicators table and checklist tool (see Appendix) contains the indicators, likely data sources and a scoring feature that allows local governments to measure their progress against established goals and/or prior indicator measurements.

At the time of a baseline assessment, this feature can be used by local governments to set goals and milestones. For example, if a hypothetical user selects a community goal for Walkability #1 of "40 per cent of housing within walking distance (500 m) of public transportation," and the current response to the indicator is "20 per cent," then the locality has met 50 per cent of its goal.

Using the scoring system provided at the end of the final indicators table and checklist tool (see Progress Towards Goal Scoring System on page 9), one could grade the locality's progress. In this example, by meeting 50 per cent of its goal, the locality would score "moderate progress" on this indicator.

**Table 1** Pilot test results—Number of indicators with data readily available

| Indicator category (Total number of indicators in pilot test) | Number of indicators for which data is readily available | |
|---|---|---|
| | Mississauga | Squamish |
| Neighbourhood walkability (7) | 4 | 1 |
| Transportation options (3) | 2 | 1 |
| Safety (5) | 1 | 2 |
| Housing choice (6) | 4 | 3 |
| Access to services (4) | 0 | 2 |
| Community engagement (3) | 3 | 2 |
| **Total (28)** | **14** | **11** |

## APPENDIX: FINAL INDICATORS TABLE AND CHECKLIST

| Indicator | Suggested data sources | Data source used | Goal related to the indicator | Indicator response | Progress towards goal* | Notes, Comments |
|---|---|---|---|---|---|---|
| | | **Neighbourhood Walkability** | | | | |
| 1 | Proportion of housing within walking distance (500 m) of public transportation (could be further categorized by new versus existing housing stock by local government). | Local planning data | | | | |
| 2 | Average distance between pedestrian resting places (for example, benches) along sidewalks. | Local planning data | | | | |
| 3 | Proportion of streets (by kilometre) in the community with sidewalks<br>■ on both sides<br>■ a sidewalk on one side<br>■ no sidewalks. | Local planning data | | | | |
| 4 | Sidewalks (by kilometre) that could be defined as in good repair (that is, no badly cracked or broken pavement). | Local planning data | | | | |
| 5 | Average number of walks per day-week-month by residents age 65+ (65 years old or older), categorized by destination, season-length-/time of walk). | Special purpose surveys (Canadian Community Health Survey (2005) | | | | |
| 6 | Annual number of pedestrian: 1) injuries and 2) fatalities from accidents with automobiles, categorized by:<br>■ victim's age,<br>■ season,<br>■ reason for accident. | Canadian Motor Vehicle Traffic Collision Statistics (Transport Canada) | | | | |
| 7 | Proportion of sidewalks cleared during or after snowfall or freezing rain. | Municipal public works departments | | | | |
| | | **Transportation Options** | | | | |
| 1 | Proportion of residents age 65+ who travel every day, once a week, once a month, or never, categorized by:<br>■ mode of transportation,<br>■ destination,<br>■ season. | Special purpose surveys / 2007 General Social Survey (Statistics Canada) / Local transit authority | | | | |
| 2 | Average number of trips taken on public transportation every day, once a week, once a month by residents 65 years old or older. | Focus group with seniors / Special purpose surveys / General Social Survey (Statistics Canada) / Local transit authority | | | | |
| 3 | Average number of times per week that residents 65 years old or older report staying at home because of lack of transportation. | Focus group with seniors / Special purpose surveys / General Social Survey (Statistics Canada) | | | | |

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| Indicator | Suggested data sources | Data source used | Goal related to the indicator | Indicator response | Progress towards goal* | Notes, Comments |
|---|---|---|---|---|---|---|
| | | **Safety** | | | | |
| 1 | Proportion of residents age 65+ who report feeling safe/unsafe in their neighbourhood, categorized by:<br>■ time of day,<br>■ location,<br>■ reason(s) for feeling unsafe. | Focus group with seniors / Special purpose surveys | | | | |
| 2 | Proportions of streets, pedestrian routes (by linear km), bus stops, public places, and retail areas that lack adequate lighting for walking at night. | Local planning data / Special purpose surveys | | | | |
| 3 | Annual number of slip and fall injuries on sidewalks and in public spaces, categorized by:<br>■ season,<br>■ type of injury,<br>■ place of fall. | Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) (Public Health Agency of Canada) / Canadian Community Health Survey (2005) | | | | |
| 4 | Number of reported street crimes against residents ages 65+, categorized by:<br>■ type of crime,<br>■ location of crime,<br>■ time of day. | Crime statistics (Statistics Canada) / Canadian Centre for Justice Statistics / 2008 General Social Survey / Local police | | | | |
| 5 | Availability of wayfinding systems/safety features at crosswalks (for example, crossing times that allow seniors to cross, clear signage, visible sight lines, audible crossing signals for the visually impaired, safe design). | Local planning data / Municipal audit of sight lines | | | | |
| | | **Housing Choice** | | | | |
| 1 | Proportions and numbers of residences in the community categorized by housing type: multi-family home, single-family home, duplex, townhouse, rowhouse, mobile home, FlexHousing™, garden (granny) flats, accessory dwelling units, and other (could be further categorized by new versus existing housing stock). | Local planning data / CMHC / Census | | | | |
| 2 | Occupancy rates at existing lifestyle/ retirement/seniors residences, and supportive housing in the community. | Local planning data / CMHC / Census / Special purpose surveys | | | | |
| 3 | Types of tenure available in the community (freehold homeownership, rental, condominium, co-operative housing, co-housing, leaseholds, shared equity ownership, life leases, life tenancies, flexible tenure). | Local planning data / 2008 General Social Survey (Statistics Canada) /Census / Special purpose surveys | | | | |

## APPENDIX: FINAL INDICATORS TABLE AND CHECKLIST

| Indicator | Suggested data sources | Data source used | Goal related to the indicator | Indicator response | Progress towards goal* | Notes, Comments |
|---|---|---|---|---|---|---|
| 4 | Proportion of residents 65 years old or older who spend 30 per cent or more of their before-tax household income on housing. | CMHC / Census | | | | |
| 5 | Proportion of residents 65 years old or older living in housing with unmet home modification needs (for example, narrow hallways, unsafe stairs, lack of bathroom grab bars, inadequate lighting). | CMHC data / Special purpose surveys/ Advancing the inclusion of people with disabilities (Government of Canada) | | | | |
| 6 | Proportion of households living in "acceptable" housing (meeting adequacy, suitability, and affordability standards) in the community, categorized by age cohort. | CMHC data / Special purpose surveys | | | | |
| | | **Access to Services** | | | | |
| 1 | Proportion of housing within walking distance (500 m) of the following basic services, pharmacy, grocery store, bank, hospital, senior centre and shopping. | General Social Survey (Statistics Canada) / Local planning data | | | | |
| 2 | Proportion of housing within walking distance (500 m) or within 10-minute drive by car or public transit trip to the following services: pharmacy, grocery store, bank, hospital, seniors centre, retail shopping. | General Social Survey (Statistics Canada) / Local planning data | | | | |
| 3 | Proportion of residents 65 years old or older that require assistance from family members or other individuals to access the following services: pharmacy, grocery store, bank, hospital, seniors centre, retail shopping, libraries and community halls. | Local planning data / Special purpose surveys/ Advancing the inclusion of people with disabilities (Government of Canada) | | | | |
| 4 | Proportion of residents 65 years old or older who have access to home delivery of groceries and other retail goods. | | | | | |

## APPENDIX: FINAL INDICATORS TABLE AND CHECKLIST

| Indicator | Suggested data sources | Data source used | Goal related to the indicator | Indicator response | Progress towards goal* | Notes, Comments |
|---|---|---|---|---|---|---|
| | | **Community Engagement** | | | | |
| 1 | Proportion of residents 65 years old or older who engage in social activities at least once per week. Activities may include: meeting with friends/neighbours, civic, religious or cultural activities, volunteer or part-time work. | Focus group with seniors, special purpose surveys / 2008 General Social Survey (Statistics Canada) | | | | |
| 2 | Proportion of residents 65 years old or older who have access from their home to a dedicated seniors centre or other place of interest, such as a library or community centre. | Focus group with seniors, special purpose surveys | | | | |
| 3 | The extent to which local government has land use policy and planning programs that specifically engage seniors. | Local government /Research on municipal policies | | | | |

**Notes:**

*** Progress Towards Goal Scoring System:**

75% or more of goal met=significant progress

Equal to or greater than 50% but less than 75% of goal met=moderate progress

Equal to or greater than 25% but less than 50% of goal met=initial progress

Less than 25% of goal met=progress needed

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**Research Report:** Smart Growth, Livable and Sustainable Communities for Seniors

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Printed in Canada
Produced by CMHC 04-07-08

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